

## Central Valley Flood Protection Plan

# Round 1 Management Action Workshops

## Draft Initial Management Actions

A management action is a specific structural or nonstructural strategy, action, or tactic that contributes to the Central Valley Flood Protection Plan (CVFPP) goals and addresses identified flood management problems in the Systemwide Planning Area, including any identified deficiencies in the State Plan of Flood Control (refer to *CVFPP Interim Progress Summary No. 1*). Management actions may range from potential policy or institutional changes, to recommendations for operational and physical changes to the flood management system. Management actions may address one or more CVFPP goals and are the “building blocks” for regional solutions and eventually systemwide solutions.

An initial set of management actions was developed by consolidating a large number of compiled actions and recommendations from published studies and reports, and input from Regional Conditions and Topic Work Groups during CVFPP Phase 1 activities. DWR subject-matter experts provided a preliminary evaluation of the environmental, economic, technical, and social consideration of the identified management actions. Each management action was evaluated against a uniform set of criteria to allow for a consistent comparative analysis.

Management Actions Workshops will refine the initial management actions and develop additional actions to augment this initial set of management actions. For information on Phase 2 Workshops, refer to *Attendee’s Guide to Phase 2 Workshops* available at [www.water.ca.gov/cvfmp/](http://www.water.ca.gov/cvfmp/).

Each management action is evaluated using the *Management Actions Evaluation Form*. For description of the form sections refer to the *Reader’s Guide to the Management Actions Evaluation Form* available at [www.water.ca.gov/cvfmp/](http://www.water.ca.gov/cvfmp/).

To provide detailed written comments on the management action description and evaluation, use the fillable PDF *Comments Form* available at [www.water.ca.gov/cvfmp/](http://www.water.ca.gov/cvfmp/).

## Draft Permitting Management Actions

ID	Management Actions Title
MA-054	Develop regional and river-corridor conservation plans, or expand existing regional conservation plans (such as regional Habitat Conservation Plans and Natural Community Conservation Plans) to provide a more efficient and effective regulatory approval process for flood projects.
MA-055	Develop regional advance mitigation strategies and networks of mitigation banks to meet the needs of flood and other public infrastructure projects.
MA-056	Develop regional permitting approaches such as corridor management strategies (CMS).

**DRAFT Management Action Evaluation****Management Action Title:**

MA-054

Develop regional and river-corridor conservation plans, or expand existing regional conservation plans (such as regional Habitat Conservation Plans and Natural Community Conservation Plans) to provide a more efficient and effective regulatory approval process for flood projects.

**Description:***Problem:*

Habitat and ecosystem planning is conducted in piecemeal, fragmented fashion in many parts of the planning area. Multiple regulatory agencies are responsible for ensuring the protection or mitigation of environmental resources impacted by flood management activities. Limited coordination and shared vision results in a regulatory approval process that adds complexity and scheduling challenges to flood project approvals. It also results in fragmented conservation projects that may have limited viability in terms of long-term biological success.

**Desired Outcome:**

High-quality regional and river-corridor conservation plans that both improve flood project regulatory approval and provide improved habitat that is viable for the long-term.

*Methodology:*

Develop plans such that they provide measurable biological objectives for targeted resources, incorporate adaptive management approaches, fund long-term habitat management and monitoring, and provides the public with the opportunity to assess, review, and critique plans as they are being developed.

**CVFPP Goals***Contributes Significantly to:*

Improve Institutional Support

**Potentially Contributes to (Check all that apply):**

- |                                                                       |                                                                    |
|-----------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Improve Flood Risk Management                | <input checked="" type="checkbox"/> Improve Institutional Support  |
| <input checked="" type="checkbox"/> Improve Operation and Maintenance | <input checked="" type="checkbox"/> Promote Multi-Benefit Projects |
| <input checked="" type="checkbox"/> Promote Ecosystem Functions       |                                                                    |

**Recommendations (Retained/Not Retained/Requires Further Evaluation):**

Retain for further evaluation

**Advantages:**

- Will work well in conjunction with other MAs involving ecosystem restoration, agency coordination, and land use planning.

**Disadvantages:**

- Does not directly improve reduce flood risk management.

**Economic Considerations:***Capital Cost? (High, Medium, Low)*

Medium . Plans such as NCCPs require adequate funding to develop. Implementation of the plans, which constitute other management actions, will have varying capital costs

*Annual Cost to Operate/Maintain/Repair? (Increase, Decrease, or No Change)*

No change. Plans require some minimal annual funding to ensure good communication among partners and to develop adaptive solutions to changed or unforeseen circumstances. But this cost can be offset by cost-savings associated with more efficient implementation.

*Potential for Cost-Sharing?*

High potential for cost sharing among various agencies with responsibilities for ecosystem planning and flood system operations and maintenance.

*Emergency Response and Recovery Costs? (Increase, Decrease, or No Significant Change)*

Improved regional coordination will likely have no significant change on emergency response and recovery costs.

*Flood fighting? (Increase, Decrease, or No Significant Change)*

Improved regional coordination will likely have no significant change on flood fighting costs.

*Effect on Damage to Critical Public Infrastructure?*

Improved regional coordination will likely have no significant effect on damage to critical public infrastructure.

*Effect on Floodplain and Economic Development?*

Regional conservation plans will help to direct land development projects toward areas where they will have the least impact on both flood management and habitat conservation goals.

*Effect on State Flood Responsibility? (Increase, Decrease, or No Significant Change)*

Improved regional coordination will likely have no significant negative effect on State flood responsibility. More effective regional coordination between agencies could improve the ability to meet our flood responsibilities.

**Environmental Considerations:**

*Rehabilitate key physical processes and ecological functions?*

Increased regional collaboration among habitat and ecosystem planning and mitigation would result in rehabilitation of ecosystem functions by concentrating mitigation in larger areas, and by selecting more suitable lands for mitigation than is possible with piecemeal mitigation.

*Adverse Environmental Impact?*

None

*Permitting Considerations?*

Improved and streamlined permitting for future projects.

*Opportunity to Reduce the Adverse Environmental Impacts Associated With Operation, Ongoing Maintenance, and Repairs of FM System?*

Impacts associated with flood system O&M could be reduced because O&M would be better facilitated and mitigation better coordinated.

**Social Considerations:**

*Public Safety?*

This MA is not likely to directly affect public safety.

*Potential to Provide Other Benefits (Water Supply, Recreation, or Open Space)?*

Conservation plans provide opportunities to improve water quality, increase open space, and manage recreation in ways that are compatible with overall CVFPP goals

*Likelihood of Implementation (Politically, Institutionally, and Culturally Acceptable)?*

California has over 30 regional conservation plans in varying stages, with some plans in the implementation phase for over 10 years. Corridor management plans are under development, and they are being viewed as valuable approaches for meeting multiple flood management goals on specific reaches

**Technical Considerations:**

*Redirected Hydraulic Impacts?*

None

Residual Risk?

N/A

Climate Change Adaptability:

This action would enhance biological adaptability by increasing the effectiveness of conservation actions for enhancing the ability of populations to handle and adjust to the consequences of climate change by increasing the extent, connectivity, complexity, and continuity of habitats across environmental gradients, which would increase the size and viability of populations. Many existing conservation plans currently are incorporating climate change as part of their long-term objectives.

Urban, Small Community, and Non-Urban Considerations:

No specific considerations identified.

Regional Applicability:

All regions

Integration with Other Programs:

Central Valley Conservation Strategy (FESSRO), Corridor Management Strategy (FMO), Interagency Flood Management Collaborative Program, Flood Corridor Program (Projects Office), Natural Community Conservation Plans and Habitat Conservation Plans (several), Riparian Habitat Joint Venture, Central Valley Habitat Joint Venture, species recovery plans

References:

White Paper; Agricultural Stewardship White Paper; Environmental Sustainability Summary;

DRAFT Management Action Evaluation

Management Action Title: MA-055

Develop regional advance mitigation strategies and networks of mitigation banks to meet the needs of flood and other public infrastructure projects.

Description:

Problem:

Although many flood projects can avoid or greatly reduce their impacts to habitat, some projects require offsite mitigation to compensate for habitat losses. Identifying suitable off-site locations is often left to the last phase of flood projects, as it becomes more evident about the extent and nature of the expected impact. Regulatory agencies need to approve these off-site locations, and negotiations can delay overall flood project approvals. A second problem is the temporal loss of habitat, which occurs between the time when the flood project removes habitat and the time when compensatory habitat is restored to pre-project levels. A third problem is that off-site locations that are comparable in area to the impact are often too small and isolated to have long-term viability. To remain viable in perpetuity, as required, such small areas often require high ongoing maintenance costs.

Desired Outcome:

High quality regional advance mitigation strategies and networks of mitigation banks that meet the needs of flood and other public infrastructure projects.

Methodology:

Develop supporting State and federal policies, and sustainable funding sources within the State and federal budgets, and develop partnerships with regulatory agencies for planning and implementation of comprehensive regional advance mitigation banks.

CVFPP Goals

Contributes Significantly to: Improve Institutional Support

Potentially Contributes to (Check all that apply):

- ☐ Improve Flood Risk Management
- ☒ Improve Institutional Support
- ☒ Improve Operation and Maintenance
- ☒ Promote Multi-Benefit Projects
- ☒ Promote Ecosystem Functions

Recommendations (Retained/Not Retained/Requires Further Evaluation):

Retain for further evaluation

Advantages:

• Will work well in conjunction with other MAs involving ecosystem restoration, agency coordination, and land use planning.

Disadvantages:

• Does not directly improve reduce flood risk management.

Economic Considerations:

Capital Cost? (High, Medium, Low)

High. Establishment of mitigation banks requires acquisition of land, restoration, and funding for long-term management and monitoring.

Annual Cost to Operate/Maintain/Repair? (Increase, Decrease, or No Change)

Regional collaboration for advance mitigation banks is likely to decrease overall costs of regulatory compliance and mitigation for operations, maintenance, and repair activities.

*Potential for Cost-Sharing?*

High potential for cost sharing among various agencies with responsibilities for ecosystem planning and flood system operations and maintenance.

*Emergency Response and Recovery Costs? (Increase, Decrease, or No Significant Change)*

Developing regional mitigation banks will likely have no significant change on emergency response and recovery costs.

*Flood fighting? (Increase, Decrease, or No Significant Change)*

Developing regional mitigation banks will likely have no significant change on flood fighting costs.

*Effect on Damage to Critical Public Infrastructure?*

Developing regional mitigation banks will likely have no significant change on damages to public infrastructure.

*Effect on Floodplain and Economic Development?*

Implementation of advance mitigation banks may reduce the floodplain area available for future development.

*Effect on State Flood Responsibility? (Increase, Decrease, or No Significant Change)*

Implementation of advance mitigation banks will likely have no significant negative effect on State flood responsibility.

**Environmental Considerations:***Rehabilitate key physical processes and ecological functions?*

Implementation and coordination on regional advance mitigation planning would result in rehabilitation of ecosystem functions by concentrating mitigation in larger areas, by implementing mitigation in advance of impacts, and by selecting more suitable lands for mitigation than is possible with piecemeal mitigation.

*Adverse Environmental Impact?*

None

*Permitting Considerations?*

Improved and streamlined permitting for future projects.

*Opportunity to Reduce the Adverse Environmental Impacts Associated With Operation, Ongoing Maintenance, and Repairs of FM System?*

Impacts associated with flood system O&M could be reduced because O&M would be better facilitated and mitigation better coordinated.

**Social Considerations:***Public Safety?*

This MA is not likely to significantly directly affect public safety.

*Potential to Provide Other Benefits (Water Supply, Recreation, or Open Space)?*

Regional advance mitigation banks will increase open space and recreation values. Wetlands created in mitigation banks can yield water quality improvements.

*Likelihood of Implementation (Politically, Institutionally, and Culturally Acceptable)?*

There is high interest in developing regional advance mitigation banks from infrastructure agencies, resource agencies, and conservation organizations. Private mitigation banks already exist and regulatory agencies have developed standard approval processes for establishing these banks.

**Technical Considerations:***Redirected Hydraulic Impacts?*

None

*Residual Risk?*

N/A

*Climate Change Adaptability:*

This action would enhance biological adaptability by increasing the effectiveness of conservation actions for enhancing the ability of populations to handle and adjust to the consequences of climate change by increasing the extent, connectivity, complexity, and continuity of habitats across environmental gradients, which would increase the size and viability of populations.

**Urban, Small Community, and Non-Urban Considerations:**

No specific considerations identified.

**Regional Applicability:**

All regions

**Integration with Other Programs:**

Central Valley Conservation Strategy (FESSRO), Corridor Management Strategy (FMO), Interagency Flood Management Collaborative Program , Flood Corridor Program (Projects Office), Natural Community Conservation Plans and Habitat Conservation Plans (several), Riparian Habitat Joint Venture, Central Valley Habitat Joint Venture, species recovery plans

**References:**

DRAFT Management Action Evaluation

Management Action Title: MA-056

Develop regional permitting approaches such as corridor management strategies (CMS).

Description:

Problem:

Numerous permits are required to conduct regular maintenance activities on the state-federal flood protection works for routine maintenance. Challenges associated with permitting include the costs associated with documentation and mitigation, length of the process, restrictive conditions, and conflicting state and federal priorities. Furthermore, limited construction work windows, uncertainty regarding which permits are required for routine maintenance, and limited coordination among the various entities issuing permits had resulted in the deferral of important maintenance activities. Many levee maintaining agencies have limited staff resources and funding, and have expressed concern over the amount of their operating budgets that are dedicated to obtaining permits to perform required maintenance. This situation creates regulatory uncertainty for both the State, LMA's and regulatory agencies.

Desired Outcome:

Implement a regulatory compliance strategy that standardizes and streamlines the permitting process (timeliness and efficiency), reduce costs, and promotes regional efforts that support more successful mitigation.

Methodology:

A key to the success of any effort to streamline permitting would be the establishment of a consistent, widely-recognized definition of "routine maintenance" and the activities associated with maintenance. Knowing how routine maintenance actions can avoid and minimize impacts is also necessary. This may be explored at a regional or valley-wide level in coordination with local, State, and federal permitting agencies. Once the definition is established, regulations may need to be modified or new regional permitting processes created to support timely and effective implementation of required maintenance activities. The permitting processes needs to be developed to facilitate the necessary permitting for maintenance work to preserve design flow and levee integrity while enhancing environmental resources, through coordination, collaboration and cooperative working relationships with all stakeholders and interested parties. This process should identify where environmental clearance and permitting processes can be made more efficient while still meeting state and federal safety standards and following state and federal environmental protection procedures. Below are some options:

1. Increasing the duration over which the permits are valid to reduce costs and to promote more proactive maintenance (particularly in areas or locations that require more frequent maintenance). Various agencies, including the California Department of Fish and Game, U.S. Army Corps of Engineers (USACE), and the Central Valley Regional Water Quality Control Board, already encourage or have mechanisms for multi-year permits for routine activities. However, local levee maintaining agencies are often unaware of these options or have difficulty funding the up-front costs required to obtain longer-duration permits. For example, a new USACE regional permit could be created or Letters of Permission (LOP) issued for operation and maintenance activities to be renewed every 5 years in concert with other federal or State permits.
2. Establishing an interagency permitting office or clearinghouse could help improve the review, frequency of inspection, and enforcement of encroachment permits and permit violations to ensure consistency with system objectives while enhancing local compliance
3. Providing habitat restoration above and beyond what is necessary for project impacts could assist in streamlining future mitigation needs as would developing and implementing a Regional Advanced Mitigation Program that forecasts mitigation needs for routine maintenance and other project impacts and provides the necessary mitigation in advance of the need. Collaboration of all permitting agencies in the RAMP could ensure permit streamlining.
4. Developing corridor management strategies (CMS) for long-term integrated plans to improve and coordinate flood operations, maintenance activities, and ecosystem needs for a certain river reach(s) or corridor.

CVFPP Goals

Contributes Significantly to:

Improve Institutional Support

Potentially Contributes to (Check all that apply):

- ☐ Improve Flood Risk Management
- ☒ Improve Operation and Maintenance
- ☐ Promote Ecosystem Functions

- ☒ Improve Institutional Support
- ☐ Promote Multi-Benefit Projects

**Recommendations (Retained/Not Retained/Requires Further Evaluation):**

Retain for further evaluation

**Advantages:**

- Low Capital Cost for O&M will reduce maintenance and repair costs for LMA's.
- Initial costs for permitting and mitigation could be high, but mitigation and permitting costs may decrease in the long-run.

**Disadvantages:**

- Requires channel and floodways to be evaluated as a whole and consideration of cumulated impacts that could be beyond the resources of LMAs.
- State leadership required. May require coordination from various agencies for system wide projects, or regional projects that cross jurisdictions.

**Economic Considerations:***Capital Cost? (High, Medium, Low)*

Low; policy actions will tend to have a substantially lower capital cost than actions involving physical construction

*Annual Cost to Operate/Maintain/Repair? (Increase, Decrease, or No Change)*

A streamlined permitting process has the potential to reduce long-term maintenance and repair costs (after the initial cost to provide the advanced mitigation)

*Potential for Cost-Sharing?*

Cost to implement could be shared among various local, State, and federal agencies

*Emergency Response and Recovery Costs? (Increase, Decrease, or No Significant Change)*

Would decrease emergency cost by allowing for more for more maintenance work to be accomplished and reduce the impact of emergency efforts significantly over the entire system.

*Flood fighting? (Increase, Decrease, or No Significant Change)*

Once implemented would allow for more maintenance work to be accomplished and reduce the impact of flood flows significantly over the entire system.

*Effect on Damage to Critical Public Infrastructure?*

Once implemented would allow for more maintenance work to be accomplished and would reduce the impact of flood flows impact on infrastructure significantly over the entire system.

*Effect on Floodplain and Economic Development?*

As existing floodplains will most likely provide the habitat, or agricultural lands necessary to acquire and restore or enhance, establishing large areas as mitigation banks for future projects could preclude the ability for urban development with in the floodplain.

*Effect on State Flood Responsibility? (Increase, Decrease, or No Significant Change)*

If development cannot occur in the floodplain due to the establishment of conservation or mitigation banks, then the State's Flood Responsibility cannot increase in the future.

**Environmental Considerations:***Rehabilitate key physical processes and ecological functions?*

Use of streamlined permitting could allow for mitigation that allows for rehabilitation of ecological functions, by implementing mitigation in larger consolidated areas, in advance of impacts, and in more suitable areas than with piecemeal mitigation.

*Adverse Environmental Impact?*

None

*Permitting Considerations?*

Requires changes to existing policies and procedures. A reduction in the number of permits could result in the reduction in workload of permitting agencies.

*Opportunity to Reduce the Adverse Environmental Impacts Associated With Operation, Ongoing Maintenance, and Repairs of FM System?*

Would directly contribute to reducing adverse impacts associated with flood management projects and activities

**Social Considerations:***Public Safety?*

Promotes consistent and sustainable operation and maintenance of the flood protection work and thereby reduces the risk of floods.

*Potential to Provide Other Benefits (Water Supply, Recreation, or Open Space)?*

Improving the success of mitigation has the potential to indirectly contribute to water quality, groundwater recharge or recreation benefits

*Likelihood of Implementation (Politically, Institutionally, and Culturally Acceptable)?*

Initial development of a new permitting strategy would require intense coordination and commitment by multiple agencies; however, once streamlined and/or programmatic permitting mechanisms are established, flood system maintenance activities would be more timely and cost-effective for all parties involved.

**Technical Considerations:***Redirected Hydraulic Impacts?**Residual Risk?*

A streamlined process is likely to preserve maintenance funds for maintenance, not redirecting them for permitting costs. The net result is a more reliable and better maintained levee. Regular and consistent maintenance of levees and channels will improve the response of the flood protection works and thereby lower systemic risks of flooding.

*Climate Change Adaptability:*

Would indirectly contribute to climate change adaptability by encouraging or facilitation more successful and sustainable mitigation. In 2008 DWR published a white paper: Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water in which they identified 10 strategies designed to improve California's ability to cope with a changing climate. Strategy #5 is to enhance and sustain ecosystems. Restoration of floodplain habitats, riverine habitats and riparian habitats will directly improve the amount of carbon sequestration and assist the Department in realizing this goal.

**Urban, Small Community, and Non-Urban Considerations:**

Potential cost saving benefits to small and non-urban community with limited maintenance budgets.

**Regional Applicability:**

Potentially applicable to all regions

**Integration with Other Programs:**

Channel Maintenance Program (FMO) Levee Operations and Maintenance Program (FMO) Environmental Initiative Program (FMO)

**References:**

RCR; Agricultural Stewardship White Paper;